

CLAIMS

What is claimed is:

1. A transaction processing system comprising:

a database writer configured to process data in accordance with one or more transactions within the transaction processing system;

a transaction monitor for monitoring transactions within the transaction processing system;

a log writer for maintaining audit trail data associated with transactions within the transaction processing system; and

one or more non-disk persistent memory units associated with the log writer and configured to receive, from the log writer, audit trail data.
2. The transaction processing system of claim 1, wherein the log writer comprises a primary audit disk process and a backup audit disk process.
3. The transaction processing system of claim 1, wherein said one or more non-disk persistent memory units comprises a primary non-disk persistent memory unit and a mirror non-disk persistent memory unit.
4. The transaction processing system of claim 1, wherein said one or more non-disk persistent memory units comprises a primary non-disk persistent memory unit and a mirror non-disk persistent memory unit, and wherein the log

writer is configured to first write audit trail data to the primary non-disk persistent memory unit and then write the audit trail data to the mirror non-disk persistent memory unit.

5. The transaction processing system of claim 1, wherein the one or more non-disk persistent memory units comprise a write aside buffer configured to receive the audit trail data, the write aside buffer being configured as a circular buffer.

6. A transaction processing system comprising:

a database writer configured to process data in accordance with one or more transactions within the transaction processing system;

a transaction monitor for monitoring transactions within the transaction processing system;

a log writer for maintaining audit trail data associated with transactions within the transaction processing system;

one or more non-disk persistent memory units associated with the log writer and configured to receive, from the log writer, audit trail data; and

one or more audit log disks configured to receive audit trail data that is first received by the one or more non-disk persistent memory units.

7. The system of claim 6, wherein the log writer is configured to cause the audit trail data in the one or more non-disk persistent memory units to be written

to the one or more audit log disks when a non-disk persistent memory unit threshold is reached or exceeded.

8. The system of claim 6, wherein the transaction processing system is configured to commit transactions before associated audit trail data is written to the one or more audit log disks.

9. The system of claim 6, wherein the transaction processing system is configured to commit transactions after associated audit trail data is received by the one or more non-disk persistent memory units and before the associated audit trail data is written to the one or more audit log disks.

10. The system of claim 6, wherein the log writer comprises a primary audit disk process and a backup audit disk process.

11. The system of claim 6, wherein said one or more non-disk persistent memory units comprises a primary non-disk persistent memory unit and a mirror non-disk persistent memory unit.

12. The system of claim 6, wherein said one or more non-disk persistent memory units comprises a primary non-disk persistent memory unit and a mirror non-disk persistent memory unit, and wherein the log writer is configured to first

write audit trail data to the primary non-disk persistent memory unit and then write the audit trail data to the mirror non-disk persistent memory unit.

13. The system of claim 6, wherein the one or more non-disk persistent memory units comprise a write aside buffer configured to receive the audit trail data, the write aside buffer being configured as a circular buffer.

14. A method comprising:
receiving data associated with transaction-induced state changes; and
writing the received data to non-disk persistent memory sufficient to commit an associated transaction.

15. The method of claim 14, wherein the act of writing comprises writing the received data to first and second non-disk persistent memory units, the first non-disk persistent memory unit comprising a primary non-disk persistent memory unit, the second non-disk persistent memory unit comprising a mirror non-disk persistent memory unit.

16. The method of claim 14, wherein the act of writing comprises writing the received data to first and second non-disk persistent memory units, the first non-disk persistent memory unit comprising a primary non-disk persistent memory unit, the second non-disk persistent memory unit comprising a mirror non-disk persistent memory unit, the act of writing comprising first writing the received

data to the primary non-disk persistent memory unit and then writing the received data to the mirror non-disk persistent memory unit.

17. The method of claim 14, wherein the act of writing comprises writing the received data to first and second non-disk persistent memory units, the first non-disk persistent memory unit comprising a primary non-disk persistent memory unit, the second non-disk persistent memory unit comprising a mirror non-disk persistent memory unit, the act of writing comprising concurrently writing the received data to the primary non-disk persistent memory unit and the mirror non-disk persistent memory unit.

18. The method of claim 14, wherein the act of receiving is performed by a log writer comprising primary and backup audit disk processes.

19. The method of claim 14 further comprising after writing the received data to the non-disk persistent memory, writing the transaction-induced state change data to one or more audit log disks.

20. The method of claim 14 further comprising after writing the received data to the non-disk persistent memory, writing the transaction-induced state change data to one or more audit log disks, wherein the act of writing the transaction-induced state change data to the one or more audit log disks comprises doing so

responsive to a threshold associated with the non-disk persistent memory being reached or exceeded.

21. A method comprising:

maintaining at least two write aside buffers in non-disk persistent memory, a first of the buffers comprising a primary buffer, a second of the buffers comprising a mirror buffer;

synchronously flushing audit data associated with one or more transactions to said at least two write aside buffers; and

when a predetermined condition is met, writing the audit data in the write aside buffers to one or more audit log disks.

22. The method of claim 21, wherein the act of maintaining comprises maintaining said buffers as circular buffers.

23. The method of claim 21, wherein the predetermined condition comprises a threshold condition.

24. The method of claim 21, wherein said act of synchronously flushing is sufficient to commit an associated transaction.

25. The method of claim 21, wherein said acts are performed by a transaction processing system that comprises a database writer component, a transaction

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monitor component and a log writer component, each component being implemented as a primary-backup process pair.

26. A method comprising using non-disk persistent memory to commit transactions.